
TEACHING AND LEARNING

EXECUTIVE SUMMARY

The Teaching and Learning component of this document focuses on the instructional needs of teachers and the learning needs of students in meeting the vision of technology in education. Tools need to be appropriately acquired, accessed, and integrated to enhance academic achievement of all Texas students in all aspects of instruction.

This plan recognizes the need for graduates to demonstrate mastery of technology conveyed in the Texas Essential Knowledge and Skills (TEKS) as both a course of study and as applied in other content areas. Students today need appropriate technological skills and knowledge to achieve academic success and to become productive members of society.

Over the past decade, these skills have become more complex. Citizens must now have the expertise to interact with and to compete in a global society. This long-range plan directs the Texas Education Agency and provides recommendations for districts and campuses to help schools and communities meet these technology needs.

Technology for Teachers and Learners

The teacher-learner relationship in our schools is evolving and will remain important over the duration of this plan. Learners across the state gain access to learning opportunities when teachers have the incentives, expertise, resources, and human support to feel confident in their own technology skills and to provide opportunities to students.

The Texas long-range plan for technology embraces the belief that, before technology can significantly improve learning, teachers must first be competent with the technology applications that facilitate their work and support student learning.

Short-term (two-year) initiatives in Teaching and Learning focus on:

- meeting students' learning needs through distance learning and other technologies,
- clarifying the technology proficiencies expected of students and teachers,
- highlighting effective practices,
- establishing partnerships to provide tools and services, and
- encouraging effective planning.

These initiatives will build on the technology-based experiences begun under the previous long-range plan for technology and extend them into the mid-term (the following four years) and beyond.

The mid-term actions and recommendations strengthen teachers' and students' skills by:

- fostering the development and integration of rigorous TEKS into technology-related classroom activities and into electronic instructional materials,
- developing state accountability measures,
- encouraging regional service centers and state and local partnerships with commercial concerns to develop products appropriate for Texas schools, and

- continuing to encourage effective local planning.

Initiatives for the long term sustain and extend attention to teachers and students. At the same time, they define a new focus on parent involvement in planning for technology, using technology based educational resources, and addressing the needs of the larger community.

Community Involvement

At each stage, actions are recommended to other state agencies, regional education service centers, schools, communities, institutions of higher education, and the private sector. Each has a role to play in building education and students' technology proficiencies and in fostering technology integration to meet the ultimate goal of increased student achievement.

Integration of Technology

The state's current initiative to redefine the curriculum by specifying essential knowledge and skills across all discipline areas offers a rare opportunity to position technology as it should be — integrated into all aspects of teaching and learning for all students and teachers. The Teaching and Learning Actions and Recommendations, along with the other three critical components, contribute toward meeting the vision for technology use in education by ensuring appropriate application of technology in the TEKS as well as TEKS-driven training, instructional materials, and assessment.

TEACHING AND LEARNING

ACTIONS AND RECOMMENDATIONS

State

| | Short-term 1997-98 | Mid-term 1999-2002 | Long-term 2003-2010 |
|--|-----------------------|-----------------------|------------------------|
| <i>Actions by the Texas Education Agency</i> | | | |
| TL.TEA.1-11/27 | | | |
| .1 Develop and adopt Texas Essential Knowledge and Skills (TEKS)* that integrate technology into teaching and learning in all areas | —————→ | | |
| .2 Implement and update TEKS that integrate technology into teaching and learning | | —————→ | |
| .3 Adopt instructional materials that integrate technology into the Texas Essential Knowledge and Skills | | —————→ | |
| .4 Ensure that instructional materials are accessible by all students and educators | —————→ | | |
| .5 Establish expectations for technology proficiencies by educators | —————→ | | |
| .6 Develop standards for measuring and reporting the extent to which educators meet the technology proficiencies | | —————→ | |
| .7 Update expectations for technology proficiencies by educators and revise standards for measurement and reporting | | | —————→ |
| .8 Reflect the expectations for technology proficiencies by educators in teacher appraisal and in the Academic Excellence Indicator System (AEIS) through measuring, analyzing, and reporting results | | | —————→ |
| .9 Establish expectations for technology proficiencies by students in kindergarten through grade 12, including computer-related skills that meet standards for each high school graduate by the year 2000 (TEC 32.001) | —————→ | | |
| .10 Update expectations for technology proficiencies by students | | | —————→ |
| .11 Reflect the expectations for technology proficiencies by students in student assessment and in AEIS through measuring, analyzing, and reporting results | | —————→ | |

Texas Essential Knowledge and Skills (TEKS) are statements of knowledge and skills and of Performance Descriptions that, in accordance with state statute, will be adopted by the State Board of Education to replace the essential elements. Knowledge and Skills address what all students should know and be able to do. Performance Descriptions are explanations of how students can demonstrate the knowledge and skills they have acquired.

State (cont'd)

| | Short-term 1997-98 | Mid-term 1999-2002 | Long-term 2003-2010 |
|--|-----------------------|-----------------------|------------------------|
| <i>Actions by the Texas Education Agency (cont'd)</i> | | | |
| TL.TEA.12-24/27 | | | |
| .12 Provide support for distance learning and distributed learning* to equalize learning opportunities for students and educators | —————→ | | |
| .13 Review and, if necessary, revise policies regarding student credit in distance and distributed learning courses | | ————→ | |
| .14 Develop and incorporate a standardized instructional planning format into the teacher technology system so that teachers can electronically share instructional approaches | | | ————→ |
| .15 Encourage, coordinate, and support quality planning by school districts | —————→ | | |
| .16 Initiate and implement partnerships with providers of instructional products and services to secure rights and cost efficiencies for Texas schools and to ensure Texas' participation in content development | —————→ | | |
| .17 Provide educators access to use and contribute to an on-line consumers' guide to technology-based instructional materials | —————→ | | |
| .18 Arrange for an external review of state education technology initiatives for expansion, maintenance, revision, or deletion, and make recommendations to the legislature | | ————→ | |
| .19 Identify, communicate, and reward best practices of technology integration into teaching and learning | —————→ | | |
| .20 Continue to fund and foster innovative practices in the use of technology in teaching and learning | —————→ | | |
| .21 Foster innovation in using technology to assess, document, and report student progress | | ————→ | |
| .22 Continue to provide research and development for learning, staff development, community education, staffing, and organization of learning environments with technology | —————→ | | |
| .23 Participate with the Texas Higher Education Coordinating Board in the evaluation of procedures for concurrent enrollment of high school students | —————→ | | |
| .24 Coordinate provision of adult literacy services to adult learners with libraries and other providers | | ————→ | |

Distributed learning is learning engaged in by students, educators, staff, community members, or others with the support of telecommunications technologies at a school, home, business, or another site.

State (cont'd)

| Short-term 1997-98 | Mid-term 1999-2002 | Long-term 2003-2010 |
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Actions by the Texas Education Agency (cont'd)

TL.TEA.25-27

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|---|---|---|
| .25 Make pre-kindergarten through Grade 12 education available to the community through technology supported distributed learning | | → |
| .26 Establish and communicate expectations for parents' and communities' use of infrastructure for access to learning resources | → | |
| .27 Communicate policies and recommendations of the <i>Long-Range Plan for Technology, 1996-2010</i> | → | |

Recommendations to State Board for Educator Certification

TL.SBEC.1

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|---|---|
| .1 Establish certification standards for technology proficiencies by educators in teaching and learning, instructional management, professional development, and administration | → |
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Regional

Recommendations to Regional Education Service Centers

TL.RESC.1-8

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|---|---|
| .1 Establish and provide a menu of services for schools to support implementation of the <i>Long-Range Plan for Technology, 1996 - 2010</i> and of regional and local technology initiatives | → |
| .2 Disseminate information and offer staff development on technology integration into the curriculum, including the Texas Essential Knowledge and Skills and expectations for technology proficiencies for educators and students | → |
| .3 Distribute information and offer training related to the best practices for technology planning and use of technology in teaching and learning | → |
| .4 Participate in partnerships to develop instructional materials and services | → |
| .5 Provide to educators and students facilitated preview of learning resources, especially those provided through state licenses and adoptions | → |
| .6 Assist schools in developing and implementing strategies to meet the Performance Descriptions in the TEKS | → |
| .7 Offer technical assistance for technology planning | → |
| .8 Disseminate information about regional industry needs for graduates' technology skills | → |

Local (cont'd)

| | Short-term 1997-98 | Mid-term 1999-2002 | Long-term 2003-2010 |
|---|-----------------------|-----------------------|------------------------|
| <u>Recommendations to Local Education Agencies</u> | | | |
| TL.LEA.1-18 | | | |
| .1 Develop strategies to meet Performance Descriptions for students in the TEKS and to establish technology proficiencies for educators | → | | |
| .2 Increase students' technology proficiencies | → | → | → |
| .3 Increase educators' effectiveness in using technology | → | → | → |
| .4 Increase academic performance across the curriculum through technology | → | → | → |
| .5 Integrate technology into teaching and learning in all areas | → | → | → |
| .6 Integrate ongoing planning for technology into all classroom, campus, district, and community planning | → | → | → |
| .7 Ensure accessibility by all students to technology-based instruction and to adaptive/assistive devices, as appropriate | → | → | → |
| .8 Use student performance data and curriculum materials that are provided and managed electronically in instructional planning | → | → | → |
| .9 Pilot assessment of models for reporting the extent to which students meet the technology proficiencies in the TEKS | | → | |
| .10 Incorporate technology use into the teacher appraisal system, where appropriate | | | → |
| .11 Assess and report the extent to which students meet technology proficiencies in the TEKS | | | → |
| .12 Incorporate expectations for educators' and students' technology proficiencies into local accountability systems | | | → |
| .13 Use distance learning and distributed learning for expanding curricular offerings and meeting the needs of homebound and other students | → | → | → |
| .14 Use distance learning to provide educational services and information about education to parents and other community members | | | → |
| .15 Provide access by staff and students to the best available electronic information resources in classrooms, libraries, and other appropriate sites | → | → | → |
| .16 Identify and communicate the best technology practices to the community | → | → | → |
| .17 Provide incentives for use of new effective models, tools, and resources for teaching and learning | → | → | → |
| .18 Provide parents and other community members access to the infrastructure for educational resources | | → | → |

Local (cont'd)

| Short-term 1997-98 | Mid-term 1999-2002 | Long-term 2003-2010 |
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Recommendations to Communities

TL.COM.1-3

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|---|--------|--------|
| .1 Access existing and emerging networks for educational services and information | —————→ | |
| .2 Participate in establishing and updating expectations for students' and educators' technology proficiencies and in developing effective reporting and communications systems | —————→ | |
| .3 Participate in teaching and learning opportunities and in the use of other educational resources available through the telecommunications infrastructure | | —————→ |

Higher Education

Recommendations to Institutions of Higher Education

TL.IHE.1-7

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| .1 Provide professional development to faculty engaged in educator preparation in integrating technology into teaching and learning | —————→ | |
| .2 Demonstrate the best practices and models of technology integration into teaching and learning and make them available for viewing by schools | —————→ | |
| .3 Expand collaboration between public schools and educator preparation entities | —————→ | |
| .4 Participate in partnerships with schools to pursue grant opportunities | —————→ | |
| .5 Participate in partnerships with the private sector and public entities to develop and provide instructional materials and services | —————→ | |
| .6 Deliver professional development and degree programs for staff and dual credit for students through distance learning and distributed learning | —————→ | |
| .7 Share library and information resources with schools and communities | —————→ | |

Private Sector

| Short-term 1997-98 | Mid-term 1999-2002 | Long-term 2003-2010 |
|-----------------------|-----------------------|------------------------|
|-----------------------|-----------------------|------------------------|

Recommendations to the Private Sector

TL.PS.1-6

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|--|---|
| .1 Collaborate with schools on establishing and updating expectations for technology proficiencies in the TEKS for students | → |
| .2 Collaborate with schools on establishing and updating expectations for technology proficiencies for educators | → |
| .3 Participate in partnerships to develop and provide products, materials, and services that ensure rights and cost efficiencies for schools and that ensure Texas' participation in content development | → |
| .4 Invite educators, students, and parents to experience technology's role in the workplace | → |
| .5 Provide technology-based work experience for educators and students through internships and other means | → |
| .6 Support communication of the policies and recommendations of the <i>Long-Range Plan for Technology, 1996 - 2010</i> | → |